Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

Title V draft No. V-97-031
NORTH AMERICAN STAINLESS
GHENT, KY.
November 19, 1997
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SOURCE DESCRIPTION:
Emission Point #1: Annealing furnace- Hot AP Line.

COMMENTS:
This emission point has emissions primarily from natural gas combustion in low NO_x burners. There is no additional control equipment.
The emission factors have been taken from AP-42, except for the NO_x factor of 127 lbs/mmcf of natural gas burned which were from vendor guarantees for the low NO_x burners.

There are no applicable regulations for this point. The company has requested a limit on natural gas usage as partial credit to preclude PSD.

SOURCE DESCRIPTION:
Emission Point #2: Shot blaster using steel shot to remove loose scale from steel sheets.

COMMENTS:
This emission point has emissions generated from the abrasion of the steel shot used in the blaster and from the steel being cleaned. The emission factors were calculated assuming that all the shot plus 0.5% of the steel processed is emitted before being controlled by the fabric filter operating at an efficiency of 99%. The heavy metals present in trace quantities in the steel are considered to be emitted as particulates and not as toxics as they are bonded in the steel.

The applicable regulation for this point is 401 KAR 59:010, New process operations.

The source requested a limit below the allowable per 59:010 as partial credit to preclude PSD. The visible emissions shall be kept below 20% and the filter shall be operated so as to maintain the design efficiency.

SOURCE DESCRIPTION:
Emission Pont #3: Hot AP Line Mixed Acid Pickling where the steel is treated with nitric and hydrofluoric acid and rinsed to remove any aberrations and scaling. This emission point has a steel processing capacity of 55 tons per hour.

COMMENTS:
The primary control on this emission point is the caustic scrubber used to control the emissions of nitric and hydrofluoric acids. The efficiency of control is about 95%.
The emission factor for NO_x was taken from company stack test data.
The HF emission factor was calculated from acid usage rates and losses during tank loading.
The particulate emissions rate is not significant as emissions are primarily of acid and small quantities of scrubber solution. There will only be trace quantities of dissolved solids in the water, only a fraction of which may be emitted.

The applicable state regulations for this point are:
401 KAR 63:022 - New or modified sources emitting toxic air pollutants; and
401 KAR 53:010 - Ambient air quality standards.

The source has requested a limit on the NOx emissions as partial credit to preclude the applicability of PSD.

SOURCE DESCRIPTION:
Emission Point #4: Acme coil grinder with a maximum capacity of 15 tons of steel per hour used to polish the steel.

COMMENTS:
There is a mist collector with a control efficiency of 99.0% on this unit to capture particulate emissions.
The particulate emissions are from the grinding operation as well as from the oil polishing oils used at this point. The emission factor for the particulates was calculated based on the guaranteed flue concentrations and the average gas flow rate through the controls.
The applicable regulation is 401 KAR 59:010, New process operations.
The source has requested a limit on the particulate emissions as partial credit to preclude the applicability of PSD.

SOURCE DESCRIPTION:
Emission Point #5: A Sedzimer Cluster cold rolling mill with a maximum processing capacity of 25 tons of steel coil per hour.

COMMENTS:
There is a deflector filter used on this unit to capture oil drops, regarded as particulate emissions, with a control efficiency of 95%. The VOC emissions are assumed not to be controlled in this filter. The oil emissions are from the rolling oils used at this point. The emission factor for the oil particulates was calculated from the oil usage rate assuming all the oil was emitted as particulates and as a worst case that 20% of the oil was also emitted as VOC emissions.
The applicable regulation is 401 KAR 59:010, New process operations.
The source has requested a limit on the particulate emissions as partial credit to preclude the applicability of PSD.

SOURCE DESCRIPTION:
Emission Points #6: Annealing furnace- Cold AP Line.

COMMENTS:
This emission point has emissions primarily from natural gas combustion in low NO_x burners. There is no additional control equipment.
The emission factors have been taken from AP-42, except for the NO_x factors of 127 lbs/mmcf of natural gas burned which were from vendor guarantees for the low NO_x burners.

There are no applicable regulations for this point. The company has requested a limit on natural gas usage as partial credit to preclude PSD.

SOURCE DESCRIPTION:
Emission Point #7: Cold AP line mixed acid pickling where the steel is treated with nitric and hydrofluoric acid and rinsed to remove any aberrations and scaling. This emission point has a steel processing capacity of 50 tons per hour.

COMMENTS:
The primary control on this emission point is the caustic scrubber used to control the emissions of nitric and hydrofluoric acids. The efficiency of control is about 95%.
The emission factor of NO_x was taken from company stack test data. The HF emission factor was calculated from acid usage rates and losses during tank loading. Particulate emissions rate from this emission point is not significant as emissions are primarily of acid and very small quantities of scrubber solution from trace quantities of dissolved solids in the water.

The applicable state regulations for this point are:
401 KAR 63:022 - New or modified sources emitting toxic air pollutants; and
401 KAR 53:010 - Ambient air quality standards.
The source has requested a limit on the NOx emissions as partial credit to preclude the applicability of PSD.

SOURCE DESCRIPTION:
Emission Point #8: Pneumatic unloading of lime storage bin with a maximum capacity of 500 lbs of lime per hour.

COMMENTS:
A filter with an efficiency of 99.0% is used at this emission point to control the particulate emission. The emission factor was calculated from an estimate of flue concentration and gas flow rate through the filter.
The applicable regulation is 401 KAR 59:010, New process operations. The company has requested a limit on the particulate emissions, lower than those indicated by 401 KAR 59:010, as partial credit to preclude PSD.

SOURCE DESCRIPTION:
Emission Point # 9: Cleaver Brooks boiler with a natural gas fuel usage capacity of 36 mmBTU/hr.

COMMENTS:
There is no control equipment on this emission point.
The emissions from the boiler are a result of natural gas combustion. The emission factors for the criteria pollutants were taken from AP-42.
The applicable regulation is 401 KAR 59:015, New indirect heat exchangers. The source has requested a limit on the particulate and sulfur dioxide limits as partial credit to preclude the applicability of PSD.

SOURCE DESCRIPTION:
Emission Point # 10: Cleaver Brooks boiler with a natural gas fuel usage capacity of 36 mmBTU/hr.

COMMENTS:
There is no control equipment on this emission point.
The emissions from the boiler are a result of natural gas combustion. The emission factors for the criteria pollutants were taken from AP-42.
The applicable regulation is 401 KAR 59:015, New indirect heat exchangers. The source has requested a limit on the particulate and sulfur dioxide limits as partial credit to preclude the applicability of PSD.

SOURCE DESCRIPTION:
Emission Point # 11: Sedzimer Cluster cold rolling mill with a maximum processing capacity of 25 tons of steel coil per hour.

COMMENTS:

There is a deflector filter with a control efficiency of 95% on this unit to capture oil drops, regarded as particulate emissions. The VOC emissions are assumed not to be controlled in this filter.
The oil emissions are from the rolling oils used at this point. The emission factor for the oil particulates was calculated from the oil usage rate assuming all the oil was emitted as particulates and as a worst case that 20% of the oil was also emitted as VOC emissions.
The applicable regulation is 401 KAR 59:010, New process operations. The company has requested a limit on the particulate emissions, lower than those indicated by 401 KAR 59:010, as partial credit to preclude PSD.

SOURCE DESCRIPTION:
Emission Point # 22: A slab grinder with a maximum capacity of 200 tons of steel per hour.

COMMENTS:
There is a baghouse with a control efficiency of 98% on this unit to control particulate.
The particulate emissions were calculated from the engineering estimates of the surface removal rates.
The applicable regulation is 401 KAR 59:010, New process operations. The company has requested a limit on the particulate emissions, lower than those indicated by 401 KAR 59:010, as partial credit to preclude PSD.

SOURCE DESCRIPTION:
Emission Point #23: A Stein Heurty reheat furnace with a maximum processing rate of 200 tons of steel per hour and a maximum natural gas usage rate of 169 mmBTU/hr.

COMMENTS:
This emission point has emissions primarily from natural gas combustion in low NO_x burners. There is no additional control equipment.
The emission factors have been taken from AP-42, except for the NO_x factors of 99.43 lbs/mmcf of natural gas burned which was from vendor guarantees for the low NO_x burners.

There are no applicable regulations for this point. The company has requested a limit on natural gas usage as partial credit to preclude PSD.

SOURCE DESCRIPTION:
Emission Point # 24: A Hitachi roughing mill with a maximum capacity of 200 tons of steel per hour.

COMMENTS:
There is a centrifugal dust collection system with a control efficiency of 91% on this unit to control particulate emissions.
The particulate emissions were calculated from the engineering estimates of the surface removal rates.
The applicable regulation is 401 KAR 59:010, New process operations. The company has requested a limit on the particulate emissions, lower than those indicated by 401 KAR 59:010, as partial credit to preclude PSD.

SOURCE DESCRIPTION:
Emission Point # 25: A Hitachi finishing mill (Steckel) coiler, with two natural gas burners, and with a maximum capacity of 200 tons of steel per hour.
COMMENTS:
There is a Busch centrifugal dust collection system with a control efficiency of 91% on this unit to control particulate emissions from the grinding operation.
The particulate emissions were calculated from the engineering estimates of the surface removal rates and from natural gas emission factors from AP-42. All other emission factors are from the AP-42 emission factors for natural gas combustion.
The applicable regulation is 401 KAR 59:010, New process operations. The company has requested a limit on the particulate emissions, lower than those indicated by 401 KAR 59:010, as partial credit to preclude PSD.
